Sc9 Chem Notes- Spindlove **COVALENT COMPOUNDS** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Covalent compounds are made up of two **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
* Covalent compounds \_\_\_\_\_\_\_\_\_\_\_\_ electrons to form molecules. *Example*: \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Naming Covalent Compounds**

* **Binary covalent compounds** – *covalent compounds that contain only \_\_\_\_\_\_ elements* — are named using a procedure *similar* to that used for simple ionic compounds, but use a \_\_\_\_\_\_\_\_\_ method as well.
	+ Formulas show the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of atoms of each element in a molecule (e.g. H2O2)
		- ***NOT a ratio like ionic!***
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are used to show this

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| **Step 1:*** Place the elements in their proper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	+ *The first element farthest to the* ***left*** *in the periodic table is usually named first.*
	+ *If both elements are in the same group, the element closer to the bottom of the column is named*
 | **Step 2:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ each element in the compound the same way we do with ionic compounds.
* The 1st element name is unchanged
* The 2nd element name has suffix “ide”
 | **Step 3:*** Identify the \_\_\_\_\_\_\_\_\_ of each type of atom present.
* Add the corresponding \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to each element’s name to indicate the number of atoms.

*Exceptions to rule:* * Do *not* add a prefix if the first element has only \_\_\_\_\_\_\_\_ atom
* Shorten mono- to mon- if it is placed before \_\_\_\_\_\_\_\_\_\_\_\_
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**Prefixes**:

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| --- | --- | --- |
| 1 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_4- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_5 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_7 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_8 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_9 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_10 - \_\_\_\_\_\_\_\_\_\_\_\_\_ |  *Examples*:1. CO2 : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. CO\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. P4S10 : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. N2O4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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**Writing Formulas For Covalent Compounds:**

**Step 1**: Write each element’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 2:** Write \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to show the number of atoms as indicated by the \_\_\_\_\_\_\_\_\_\_\_\_

*Example:* dichlorine monoxide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| *Try some examples:* |  |
| disulphur decafluoride 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | phosphorus tribromide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| sulphur dioxide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | arsenic pentachloride 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

* ***Some Exceptions***

There is often a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** usedinstead of the prefix system for many covalent molecules.

* + If there are more than **\_\_\_\_\_\_\_\_\_\_** different elements
		- *Example: CH3CH2OH is called “ethanol”*
		- *Example: C12H22O11 is called “sucrose” (it’s a sugar)*
		- *Example: C6H12O6 can be fructose or glucose – both simple sugars! They differ in their molecular structure!*
	+ If it starts with **\_\_\_\_\_\_\_\_\_**
		- *Example: H2O is called “water”*